COLLEGE OF THE REDWOODS

Syllabus for BIOL 4 – General Zoology with Lab

Course Information

Semester & Year:	F2021
Course ID & Section #:	E5561
Course units:	4
Instructor's name:	Dr. Karen Reiss
Required meetings:	Lecture M/W 8:30-9:35am SCI 210; Lab T/Th 10am-1:10pm SCI 102

Instructor Contact Information

karen-reiss@redwoods.edu BUT it is best to *email through Canvas* for course-related queries…see more details in the *Communication Guidelines* section below.

Catalog Description

A course intended for majors, covering the comparative structure, function and evolution of animal phyla and non-photosynthetic, single-celled, eukaryotic taxa. Topics include phylogeny, development, morphology, physiology, and behavior, as well as principles of evolution, mechanisms of evolutionary change, and speciation.

Course Student Learning Outcomes

1. Explain the essential elements of animal life, major hypotheses for animal evolutionary history, and mechanisms for the diversification of animal life.
2. Compare and contrast the development, life cycles, anatomical and physiological characteristics of major taxa of animals as well as selected non-photosynthetic unicellular eukaryotes.
3. Evaluate the ecological relationships of animals to each other and their environments.
4. Describe, identify key characteristics, and classify representative specimens to Phylum, or when appropriate, lower taxonomic levels.
5. Apply the processes of scientific inquiry, phylogenetic analysis, and experimental design to the diversity of animals.

Prerequisites

NONE

Accessibility

College of the Redwoods is also committed to making reasonable accommodations for qualified students with disabilities. If you have a disability or believe you might benefit from disability-related services and accommodations, please contact me or Disability Services and Programs for Students (DSPS).

Course Materials

Hickman et al., *Integrated Principles of Zoology, 19th Ed.*

- This is your main textbook for the course. You will need access to the book's *Connect* site so the most inexpensive option is to purchase *Connect* with the eBook. If you click on *Connect* in Canvas you'll be taken to their website where you can make your purchase, or you can purchase through the bookstore.

Smith and Schenk, *Exploring Zoology 3rd Edition*

- This is your main resource for labs. The eBook is fine; used copies are unlikely to be available because it is a new edition.

Course Organization

The course is organized into three units. Unit 1 covers fundamentals of animal biology, Unit 2 focuses on the evolution of the invertebrate animals and animal organ systems, and Unit 3 focuses on vertebrate evolution, structure, and function.

Each week we will typically cover two topics in lecture and have two lab assignments and have one online quiz. Lectures are mandatory...you will not pass the class if you miss lectures. Labs usually reflect directly on the lecture material. The topics for each day's lecture and lab are on your paper schedule. Most lab assignments are in the *Exploring Zoology* lab manual but a few are based on handouts posted on *Canvas* or other resources. At the end of each week I'll post an online *Connect* quiz on *Canvas* that will provide a low-stakes assessment of your learning and retention. You only get one shot at each quiz, so be sure to review the week and have all your notes handy before you take it.

I highly recommend that you create a schedule in which you pace your prep and review time. This is a high content course meant to prepare you for more advanced work in biology. We will talk a lot about study strategies, but in general I recommend:

- Come to lecture Monday and take good notes.
- Do the reading for Monday's lecture afterwards, and read for the story and resonance with the lecture…don't highlight or underline or take copious notes(yet?).
- Skim Tuesday's lab assignment, read the introduction thoroughly, and familiarize yourself with the required terminology, usually taxon names and anatomical structures.
- Come to Tuesday's lab and follow directions carefully and thoughtfully answer all embedded questions, ideally through discussion with your lab mates. Also, quiz each other on the required terminology.
- Repeat for the second lecture/lab combo of the week.
- Review your lecture and lab notes.
- Take your quiz.

Creating a well-paced study schedule will help you see the big picture and facilitate the movement of new material from short-term to long-term memory. This will save you time and make you more successful in the long run.

There is a set of exams during lab time at the end of each unit. A "written" exam will consist of a variety of questions: matching, fill in the blank, labeling, sketches, definitions, explanations requiring a paragraph, short essays…everything but multiple choice! A "practical" exam will be specimen-based and will require that you identify specimens to taxonomic group or identify various anatomical structures and describe their functions.

You will write a paper that reflects original research into a topic of your choosing that will serve as your final exam.

Evaluation & Grading

If you earn 90-100% of total points you will receive some flavor of A; 80-89% earns a B; 70-79% earns a C; 60-69% earns a D; < 60% results in a grade of F. There is no curving, extra credit, or otherwise creative grading. The breakdown is as follows:

Unit Exams: Written	3 x 100	300
Practical	3 x 100	300
Weekly Connect Quizzes	15 x 20	300
Final Paper or Project		100
TOTAL		1000

Exam Make-Up Policy

For weekly quizzes, there will typically be a multi-day window within which they are available, and then they close Sunday night at midnight. Once you open a quiz it must be completed within a specified time frame (usually 45 minutes). It is up to you to find a good time that doesn't conflict with other aspects of your life when you can work in an uninterrupted fashion. If something *serious* comes up and you can't take your quiz that week talk to me and I can arrange to reopen it for you.

For exams, y***ou must contact me BEFORE the exam begins AND have a serious and verifiable excuse*** to qualify for a makeup exam:

Contact me by leaving a message on email or phone voicemail.

Serious excuses include emergency room visits, quarantine due to contagious infectious disease, and deaths in the family.

Verifiable means you have a doctor's note, a police report, or some other form of evidence.

The makeup written portion will be similar to what your classmates took but the practical portion will be a face-to-face oral exam with me. The practicals take hours to set up and I won't set one up just for you…sorry.

Academic Dishonesty

Truth matters! Cheating sucks! In the academic community, the high value placed on truth implies a corresponding intolerance of scholastic dishonesty. Academic dishonesty of any kind will result in an instant F on the quiz/exam/assignment and a memo to the Dean of Math and Science and to the Chief Student Services Officer that will become part of your permanent record. Disciplinary action will be taken if they already have your name on "the list" of past offenders. In other words, you get one warning. The Student Code of Conduct (AP 5500) is worth reading.

A couple of common pitfalls:

- Many students don't realize that complicity…allowing or encouraging cheating…is as bad as being the one doing the cheating.
- Many students don't understand that using a Wikipedia answer…even if you cite Wikipedia…is plagiarism.
- Many students don't realize that we professors KNOW that companies like Chegg will allow you to pay for access to answers to questions in popular textbooks like your lab manual. Not only is this cheating, but their answers typically suck!

It's far better to earn an F with integrity than pass the class through cheating!

Communication Guidelines

If you have a question:

- **You can email me any time using the *Message* tool on Canvas**. This is preferable to using my campus email (karen-reiss@redwoods.edu) because it keeps my class related emails in one place, and your comments/concerns are less likely to get lost in the tsunami of emails I receive on a daily basis. In either case, an email is ideal for questions that are personal and/or unique to you. I will usually respond that day but I go to bed early so if you email me after 9 I probably won't see it till morning. During the week, expect a quick response. On the weekend, it might take a day.

- **You can post your question on the *Questions for Karen* Discussion thread on Canvas**. This is ideal for questions that may be relevant to other members of the class. I usually check these each weekday morning, and once on weekends, but much more frequently if there's an assignment due or a test coming up. Do know that if I think your question will actually benefit the whole class I might repost it (without your name) in the *Discussion* thread.

When you communicate:

- **Please put the specific topic in the subject line or top of the post in the Discussion**, set off by a separate "Heading" font, e.g., "Question about lizard thermoregulation", or "Help! Freaking out about exam."

- **Please use appropriate salutations, closings, and grammar** in your messages, e.g., Dr. Reiss, My name is Sam and I'm in your Zoology class. I'm worried because I have dyslexia and reading the textbook is really hard. Do you have any suggestions for how I should study? Thanks, Sam".

- **Please be considerate of each other's questions and comments.** You will be required to participate in threaded *Discussions* with one another and I expect your comments to be thoughtful, meaningful, and respectful.

Necessary Skills

Your success at online learning depends on your facility with some basic computer-age skills. It's important to let me know sooner rather than later if any of these hold you up...talk to me and I can help before you get behind in actual coursework.

- Be able to reliably receive and respond in a timely fashion to messages sent to your CR email account.
- Be able to navigate the course in Canvas, our online learning management system.
- Be able to download and upload files in Canvas.
- Be able to use a phone or digital camera to take photos and videos that will be uploaded to Canvas.
- Be able to access internet resources including your textbook *Connect* site.
- Be able to use a word processing program (such as Microsoft Word or Google Docs).
- Be able to use a graphing program (such as Microsoft Excel or Google Sheets).

Frequently Asked Questions

Is this a hard course? Yes…but it's my hope that you'll find the hard work to be rewarding. Also, your work here will make you better prepared for the upper division courses in your major.

Isn't it all just rote memorization? No. There will be a lot of memorization since you will be learning a new language of taxonomic and anatomical terminology, but if all you do is memorize it you will fail the class. You need to know not only what everything *is*, but how it works and how it connects to everything else. For this, you need to understand, deeply, the processes that guide animal function and organic evolution.

How can I ease the memorization load?

1) *Learn what the words mean by analyzing their structure*. Many anatomical names have similar prefixes, or suffixes, and if you learn these Greek and Latin word roots you'll be able to deduce what words mean, even if you've never seen them before.

2) *Use the language*. You have to practice any language to become fluent in it. Don't just say "pesky mosquitoes", say "pesky blood-sucking dipterans". Don't just say "oh gross, I stepped on a banana slug", say "yuk, gastropod mucus between my phalanges." This will make you especially popular at parties.

3) *Connect the dots*. If you look at the course content as thousands of isolated facts you will miss the point. Everything is connected: structure is related to function, ecology is related to evolution, predators co-evolve with prey. By appreciating connections you will find that many things simply make sense.

What do I need to do to ace the class?

1) *Develop good study habits, now!* Pacing is critical. Make a schedule, and stick to it. Always start with the lecture since my job is to highlight what I think is important, and it will help focus your reading and lab work. And make review a part of your weekly routine.

2*) Be engaged.* Be active, not passive. Be alert during lecture and when you're reading. It's hardest to stay alert when you're reading. Avoid the temptation to underline everything in your text. Just relax and read for the "story". I will NEVER test you on something that was in the textbook but I didn't cover in lecture so try to enjoy the freedom of not having to memorize everything in the book. Just read it and be able to use it as a *supplement* to lectures. And don't just read…get active, make lists, draw pictures or flow charts. Do your lab exercises seriously, intentional, and with curiosity and creativity. Tutor your classmates, or ask them for help. The idea is to actively work with the material.

3) *Be patient.* Stress results when you're impatient with how slowly you're learning. The problem with stress is that too much of it actually prevents your brain from functioning. Every brain has its own rhythm when assembling new information into useable databases. Work hard, but be patient and have faith that eventually the fog of confusion will rise, and you will see something clearly (and yes, then it will get foggy again as we move on to new material...but be patient!).

What do I do if I'm having trouble (or have had trouble in the past)? See me... sooner, not later!! I'm a nice person and I'm here to help. If you have any concerns about your ability to thrive in this course, or if there is anything about you that might impede your ability to learn, see me right away so we can devise a plan.